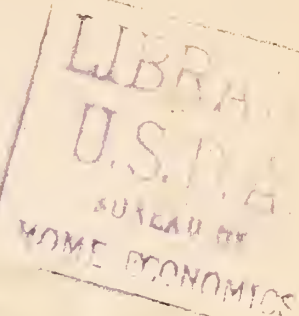


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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF HOME ECONOMICS
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FOODS RICH IN VITAMINS A, B, C, D, E, AND G

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Vitamins are important substances that are essential for good health, growth, vigor, and general well-being of the body. They are often described as necessary body regulators, since their function is to stimulate growth and protect health rather than to furnish the material for building tissue or supplying energy. Like many other important things in life vitamins are most appreciated when they are absent. As long as vitamins are present in the diet in sufficient quantities, all is well, but as soon as they are lacking or present in insufficient quantities, the disease or abnormal condition that they prevent develops. This explains the names first given specific vitamins, for instance, the "antiscorbutic" or scurvy-preventing vitamin, and the "antirachitic" or rickets-preventing vitamin.

The six vitamins so far discovered are described below, and a list of foods which are good sources of each is given. These foods have been selected on the basis of experimental work done in many laboratories, including the Nutrition Laboratory of the Bureau of Home Economics. Further experiments may make it possible to extend the lists to include other foods.

VITAMIN A

Vitamin A stimulates growth and is necessary for well-being at all ages. Without a regular supply of vitamin A a person loses vitality and may develop infections in the eyes, sinuses, ears, glands of the mouth and throat, and in some instances in the kidneys and bladder. Foods having a yellow or green color are generally rich sources of this vitamin. Green leaves, yellow corn, and sweetpotatoes, for instance, are better sources than bleached leaves, white corn, and white potatoes. Thin green leaves are very valuable for their vitamin A content.

Vitamin A is called the "fat soluble vitamin" because it is soluble in fats. It is only slightly soluble in water and is less affected by heat than some of the other vitamins.

GOOD SOURCES OF VITAMIN A

Animal Products

Good liver oil	Butter	Milk	Salmon
Liver	Cream	Egg yolk	Cheese, whole milk
			Kidney

Plant Products

Green and yellow vegetables

Leafy

Spinach	Kale	Endive	Beet leaves
Escarole	Watercress	Chard	Mustard greens
Romaine	Turnip tops	Collards	Dandelion greens
Lettuce, green	Broccoli		Brussels sprouts

Other

Beans, string, green	Sweetpotatoes	Asparagus
Carrots	Peas	Tomatoes, red and yellow
Celery, green	Squash, yellow	Corn meal, yellow
	Peppers	

Fruits

Bananas	Muskmelon	Papaya
Apricots	Cherries	Avocado
Peaches, yellow	Olives, green and ripe	Prunes
		Pineapple

VITAMIN B

-3-

Vitamin B is necessary for good appetite and also for normal muscle tone in the digestive tract. Loss of appetite and general listlessness, sluggish digestive systems, and nervous irritability result from a continued diet short in vitamin B, while an absolute lack of this vitamin brings on a muscular paralysis or the disease known as beriberi. Vitamin B is very important to the nursing mother and the baby. Without enough of it, the mother's milk may be poor in quality, and with still less of the vitamin, the mother may even fail to secrete milk. Plenty of vitamin B in the mother's diet also helps to provide the infant with vitamin B.

The list of foods containing vitamin B is long, since a large number of foods contain a little. Whole seeds such as whole-grain cereals and nuts are valuable sources because vitamin B is concentrated in the germ portion. Many fruits and vegetables are also good sources.

Vitamin B is destroyed by heat more readily than vitamin A and long cooking of vegetables is therefore undesirable. Also, since this vitamin is very soluble in water, it may be easily "washed out" in cooking when much water is used. An alkaline substance, like soda, greatly increases the amount of vitamin B destroyed. This is one reason why cooking green vegetables with soda to preserve the green color is a very bad practice.

GOOD SOURCES OF VITAMIN B

Animal Products

Liver	Heart	Lean pork	Oysters
Kidney	Egg yolk	Brains	Milk

Plant Products

Vegetables

Asparagus	Romaine	Potatoes, white	Kohlrabi
Spinach	Turnip greens	Cabbage	Okra
Tomatoes	Mustard greens	Collards	Onions
Peas	Chard	Beet leaves	Parsnips
Kale	Celery	Cauliflower	Rutabagas
Snap beans	Sweetpotatoes	Lettuce	Peppers, green
Dasheens	Carrots	Broccoli	Turnips

Fruits

Grapefruit	Pineapple, fresh	Peaches	Prunes, fresh
Lemons	and canned	Avocado	Dates
Oranges	Apples	Grapes	Cherries
Bananas	Watermelon	Cantaloupes	Pears

Seeds

Whole grains - wheat, rye, corn, rice, barley, oats
 Nuts - almonds, walnuts, chestnuts, brazil nuts, pecans, peanuts
 Legumes - beans, all kinds, cowpeas, lentils, dried peas

VITAMIN C

A daily supply of vitamin C is essential for children and adults. The necessity of having adequate amounts of vitamin C in the diet is stressed by all who recognize the importance of good "tooth nutrition." Bleeding gums, loose teeth, sore joints, loss of appetite with loss of weight and fatigue, are symptoms that develop when the diet is extremely low or lacking in vitamin C. An acute condition of this kind has long been known as scurvy. Though scurvy is rare in this country, many borderline cases with such symptoms as sore gums, loose and decayed teeth, and "rheumatism" occur when the diet contains some vitamin C but not enough.

Vitamin C is easily destroyed by heat at fairly low temperatures and is most easily destroyed in an alkaline solution, such as water containing soda. With the exception of tomatoes, cooked foods cannot be depended upon entirely for vitamin C nor does the body store a supply of this vitamin, hence the need for some raw fruits and raw vegetables every day.

GOOD SOURCES OF VITAMIN C

Fruits

Oranges	Cranberries	Raspberries
Lemons	Bananas	Watermelon
Grapefruit	Peaches, fresh and canned	Muskmelon
Tangerines	Pineapple, fresh and canned	Currants, black or red
Strawberries	Cherries	Gooseberries
		Apples

Vegetables

Cabbage	Brussels Sprouts	Turnip greens
Tomatoes, fresh and canned	Celery	Legumes, sprouted
Spinach, fresh and canned	Parsley	Rhubarb
Peas, fresh and canned	Endive	Cucumbers
Broccoli	Peppers	Cauliflower
Rutabagas	Watercress	Radishes
Collards	Turnip fresh and canned	
Snap beans	Turnip	

VITAMIN D

The mineral elements, calcium and phosphorus, are required in the building of teeth and bones, but unless vitamin D is also provided, these tissues will not develop normally, and stunted growth and rickets may result. There are only a few foods that contain vitamin D in large enough quantities to be considered good sources. A chemical substance, ergosterol, is changed into vitamin D by ultraviolet light. Foods containing this substance are often exposed to the rays of an ultraviolet lamp and thus enriched with vitamin D. The addition of irradiated ergosterol offers another means of supplying vitamin D to a food product. Human skin also contains a small quantity of ergosterol which may be changed into vitamin D by ultraviolet light. This explains how rickets may be prevented and cured by exposure of the skin to sunlight containing ultraviolet rays.

This vitamin is not easily destroyed by heat so ordinary cooking does not affect it.

GOOD SOURCES OF VITAMIN D

Excellent sources

Cod Liver oil, halibut liver oil and other fish oils.

Other foods that contain some vitamin D

Egg yolk
Salmon

Oysters
Sardines

Butter
Milk

Foods enriched with vitamin D by the Steenbock process of irradiation with ultraviolet light

VITAMIN E

Vitamin E is essential for reproduction and is known as the anti-sterility vitamin. It occurs in a great many foods in small quantities but the germ of the wheat grain is an especially rich source. Vegetable oils, green lettuce, and a number of other vegetables contain considerable quantities of vitamin E. It is not readily destroyed by heat.

VITAMIN G

Vitamin G is essential for well-being at all ages. A continued deficiency of vitamin G causes slowing up of growth or loss of weight, premature appearance of old age, sore mouth, digestive disturbances, and in time a sensitiveness and inflammation of the skin. These symptoms are very similar to those of pellagra, a disease common in certain sections of the South where families are known to live on an inadequate diet.

Foods that contain vitamin G are beneficial in preventing and curing pellagra. These vitamin occurs in many foods in moderate or small quantities. The best sources now known are yeast; glandular organs, lean meat; eggs; milk, either whole or skimmed, fresh, canned, or dried, green leaves, and the germ portion of cereals.

Like vitamin B, vitamin G is very soluble in water. It withstands the heat of cooking much better than vitamin B, but is destroyed when soda or other alkaline substances are present.

GOOD SOURCES OF VITAMIN G

Animal Products

Whole milk, fresh	Eggs
evaporated	Meat - liver (beef and pork)
dried	kidney
Skim milk, fresh	spleen
dried	heart (beef)
Buttermilk	lean cuts of beef, veal,
Cheese	pork or lamb
	Salmon

Plant Products

Green leaves

Mustard	Beet tops	Spinach	Broccoli
Kale	Carrot tops	Watercress	Cabbage
Turnip tops	Collards	Lettuce	

Wheat germ

Yeast